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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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10/585,868

07/11/2006

Matthias Maase

13156-00061-US1

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30678

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07/29/2009

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EXAMINER

MANOHARAN, VIRGINIA

ART UNIT

PAPER NUMBER

1797

MAIL DATE

DELIVERY MODE

07/29/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

| | | | |
|------------------------------|---------------------------------------|--|--|
| Office Action Summary | Application No. 10/585,868 | Applicant(s) MAASE, MATTHIAS | |
| | Examiner Virginia Manoharan | Art Unit 1797 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 September 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Acknowledgment is made of applicant's claim for foreign priority based on an application filed in Germany on January 16, 2004. It is noted, however, that applicant has not filed a certified copy of the German application as required by 35 U.S.C. 119(b).

The specification has not been checked to the extent necessary to determine the presence of all possible minor errors, e.g., typographical, grammar, idiomatic, syntax and etc. Applicant's cooperation is requested in correcting any errors of which applicants may become aware in the specification.

Claims 1-19 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

a). Claims 12 and 13 provide for the use of the process of claim 1, but since the claims do not set forth any steps for purification and recirculation of ionic liquids respectively, it is unclear what method/process applicant is intending to encompass. A claim is indefinite where it merely recites the use without any active, positive steps delimiting how this use is actually practiced in purification and recirculation.

b). There is no proper antecedent support in the claims for the recited "the more volatile of the uncharged molecules that is distilled off" in claims 15 and 17 (not initially recited in the base claim 1).

c). Claim 3 is at odds with the claim from which it depends, i.e., claim 2. Claim 2 recites "... cations, anions and uncharged molecules **are present** in equilibrium in the ionic liquid, whereas, claim 3 recites "... the cations, anions and uncharged molecules

Art Unit: 1797

are formed by protonation or alkylation of the anions by the cations which is inconsistent therewith. Emphasis added. See also claim 19. [A dependent claim incorporates every features of the claim from which it depends and cannot change nor orient the limitation(s) already recited in the independent claim].

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 4-8 and 12-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Earle et al (6,939,974) or Seddon et al (6,774,240).

Earle et al renders obvious the process for the distillation of ionic liquids or salts including the steps of setting a pressure which is not higher than ambient pressure, and heating to a temperature from 60°C to 350°C as broadly claimed in claim 1. Note col. 1, lines 48-50, and the Examples in cols. 4-7. See further the distillation process for preparing ionic liquids or salts taught by Seddon et al., at col. 4, lines 47-50. The claimed temperature of from 60°C to 350°C, obviously overlap and /or cover the temperatures suggested or taught by the prior art.

Claims 2-3, 9-11 and 15-19 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Art Unit: 1797

- a). Abdul-Sada et al discloses alkylation process of reacting an aromatic hydrocarbon with an olefin in the presence of an ionic liquid.
- b). Munson et al discloses the separation of olefins from paraffins using ionic liquid solutions.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to V. Manoharan whose telephone number is (571) 272-1450.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Caldarola can be reached on (571) 272-1444.

The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Virginia Manoharan/

Primary Examiner, Art Unit 1797

Application/Control Number: 10/585,868
Art Unit: 1797

Page 5